

Update on my Brake Switch Replacement.

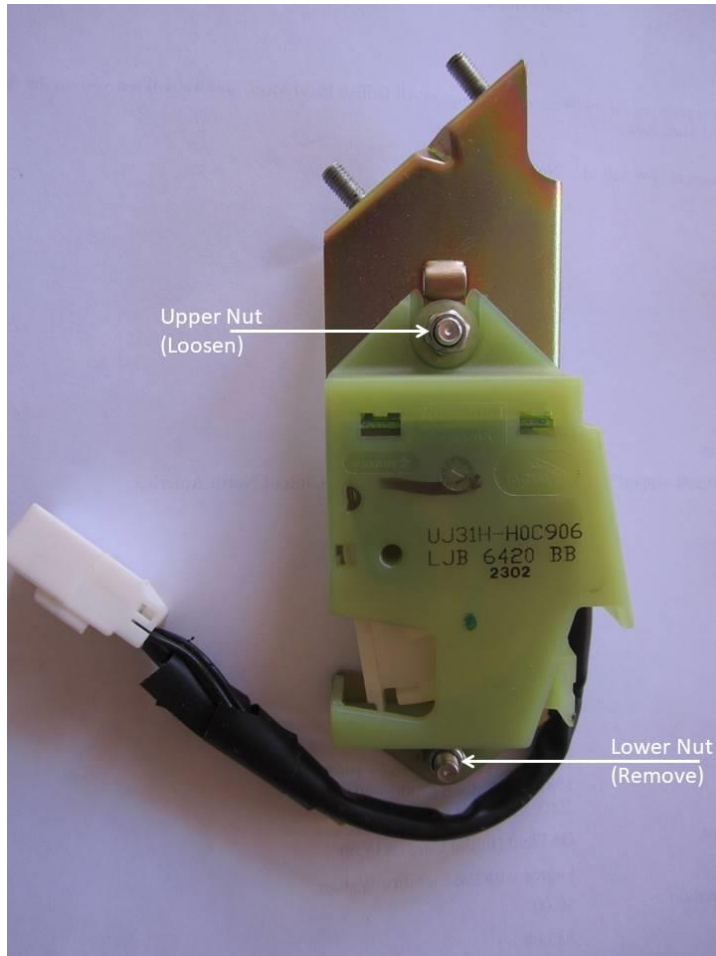
The brake light switch on the XK8 and XKR (and apparently also the XJ8) is prone to failure. When it does, you will typically get the message 'Check Rear Lights - Cruise Not Available' The switch is made of a heavy-duty spring mechanism made of nylon & metal that activates a very small DPDT switch: one SPST switch that is normally open (for the brake lights) and a second SPST switch that is normally closed (for the cruise control circuit.) The switch itself is quite tiny; it looks more like it belongs on a computer circuit board.

The brake pedal arm has a metal pin attached to it. One would think that when the driver steps on the brake pedal the pin pushes against the switch. Not so - the pin is actually in front of the switch and the pin slides against the switch mechanism to activate the switch.

NOTE: All of the replacement methods described below require the switch's electrical connector to be disconnected before starting removal and reconnected after the mechanical work is completed.

Method 1

The first technique is to leave the old bracket in place and remove the switch assembly by undoing the 8mm (5/16") nut on the lower stud, then loosening the nut on the upper stud and sliding the old mechanism out. Others have had success with this method. The main problem you might encounter is that it's very difficult to reach the switch retaining nuts (especially for someone who has never done the replacement before.) Because the switch assembly is actually mounted BEHIND the brake pedal's pin, in order to even see the nuts the brake pedal must be pushed forward. To undo the nuts you must bend the bracket to the right by an inch or two. Of course you are weakening the bracket - and - you may find that the switch assembly will not return to its exact original position, resulting in the switch electrically engaged all the time. (So the brake lamps will be stuck ON.) To get the bracket in the right place you would normally have bend it back a little further than where it originally was but that can't be done because the top of the pedal arm is in the way.



Method 2

The standard technique is to remove the entire switch assembly by undoing the two nuts that are accessible from the engine compartment and lowering the assembly past the brake pedal. Installing the replacement is best accomplished with a helper. The new switch assembly must be wiggled in place from below (remembering that it goes BEHIND the pedal arm pin) while trying to line it up with the two holes in the bulkhead. The helper will (hopefully) see the two studs and by shouting instructions help you guide the studs into the holes. At this point the helper starts the nuts onto the studs and the person holding the assembly can let go of it. It is important not to overtighten the nuts because the two studs are just press fit into the bracket and will easily break off. (That's what I did!)

If you don't have a helper, you may be able to wedge a small piece of wood as a shim under the bottom of the switch to hold it in place while you go upside and start the nuts. Of course this assumes that you were able, by yourself, to locate the switch assembly into the holes with your arm extended way, way up underneath the dash and, when you have it in place, figure out how to keep it there while you squeeze the right size shim underneath it. It would certainly help if the studs were just a few millimeters longer so that it would be easier to get the nuts started.

Method 2A

Here's the easier one-person way – a variation of Method 2.

Before undoing the nuts in the engine compartment, drill a small hole inbetween the two studs and through the bracket. You might need a longer drill bit, 1/8 inch or slightly bigger. After removing the assembly you can either drill a corresponding hole in the new bracket or transfer the switch unit from the new bracket to the old bracket. To install the replacement assembly, thread an electrical wire through the new hole in the bulkhead, reach for the wire from underneath the dash, and push it through the top of the bracket. Tie a small knot on the underside of the bracket and tie a string to the knot. From the engine compartment, start pulling the assembly into place – a little at a time, going back and forth between the engine compartment and the switch assembly so that you slowly guide it into the right position. Eventually you will see the two studs come up to the mounting holes. At this point you can pull harder on the wire and bring the studs all the way up through the holes. Wrap the wire around something handy in the compartment to hold the assembly in position while you get the nuts started. Now you can loosen the wire and, using the string from below, pull the wire out of the switch assembly. Tighten the nuts the rest of the way (but not too tight!)



Method 3

Because I was ham-fisted enough to overtighten the nuts on the bracket's mounting studs, I was forced to improvise a way to repair the situation. I cut a 1/8 inch piece of iron and drilled & tapped two holes to match the mounting stud's size. They need an M5-.8mm tap. I then installed a pair of M5-.8mm bolts that are 25mm long into the iron bar, applying cryoacetate glue where the last couple of threads go into the bar. Next, I glued the bar to the bottom of the bracket with a clear 5-minute epoxy. And waited until the next day to make sure the glue and epoxy were fully dry.



The installation was completed using the extra center hole as described in 2A above. The longer bolts really helped, and I did not have to worry about overtightening the nuts.

As of this writing, a new switch is about US\$150.

Another post on this Forum described replacing the fragile microswitch with a heavier duty unit. That may be a daunting task for many owners. It would be nice? if Jaguar released an updated unit that included a beefier switch and longer top mounting studs.